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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/608,691

06/27/2003

Patrick A. Hampton

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9686

7590

12/12/2005

Larry G. Brown
Motorola, Inc.
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EXAMINER

YACOB, SISAY

ART UNIT

PAPER NUMBER

2635

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

JK

Office Action Summary	Application No.		Applicant(s)	
	10/608,691		HAMPTON ET AL.	
	Examiner		Art Unit	
	Sisay Yacob		2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1 The application of Hampton et al., "Transducer assembly" filed on June 27, 2003 been examined.

Claims 1- 20 are pending

Claim Rejections - 35 USC § 102

2 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3 Claim 1-3 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent of Emmert (6,352,434).

4 As to claim 1, Emmert discloses a transducer assembly (Item 100 of figure 1) comprising a transducer (Item 342 of figures 3 and 4), a flexible circuit element (Item 316 of figures 3 and 4), wherein said transducer is coupled to said flexible circuit element (Col. 3, lines 66-67; Col. 4, line 1), a transducer seal (Item 328 of figure 3 and 4), wherein the transducer seal seals the transducer when the

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transducer seal is positioned between a cover and the flexible circuit element (Item 106, 316, 328 and 342 of figures 3 and 4).

5 As to claim 2, the transducer assembly according to claim 1, further, Emmert discloses the flexible circuit element (Col. 3, lines 63-67; Col. 4, lines 1-3) Items 316 of figures 3 and 4) is coupled to a display (Items 346 of figures 3 and 4) and a circuit board (Col. 4, lines 63-67; Col. 5, lines 1-8; Items 746 of figures 7 and 8), said display, said circuit board, said transducer, said flexible circuit element and said transducer seal being housed within a telecommunications device (Col. 9, lines 46-61).

6 As to claim 3, the transducer assembly according to claim 2, further, Emmert discloses the circuit board includes a zero insertion force connector for receiving said flexible circuit element (Col. 1, lines 61-66).

7 As to claim 18, Emmert discloses a method for producing a transducer assembly (Col. 9, lines 53-57), comprising the steps of providing a transducer (Item 342 of figures 3 and 4) and a flexible circuit element (Item 316 of figures 3 and 4) coupling the transducer to the flexible circuit element (Col. 3, lines 63-67), and positioning a transducer seal between a cover and the flexible circuit element to seal the transducer (See figures 3 and 4).

Rejections - 35 USC § 103

8 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9 Claims 4-10, 16-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emmert in view of US patent of Nicolaisen et al. (6,504,595).

10 As to claim 4, the transducer assembly according to claim 1, however, Emmert does not expressly disclose an extension of a lightguide, at least a

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portion of the flexible circuit element being positioned on and secured to the extension of the lightguide. In the similar field of endeavor, Nicolaisen et al., discloses a flexible circuit element that is secured onto an extension of a lightguide (Col. 2, lines 1-7; Items 26, 34 and 35 of figure 4).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify the transducer assembly of Emmert, by incorporating a flexible circuit element that is secured onto an extension of a lightguide, in order to have an extension of a lightguide, at least a portion of the flexible circuit element being positioned on and secured to the extension of the lightguide, because Nicolaisen et al., discloses a transducer assembly that incorporates flexible circuit element that is secured onto an extension of a lightguide and one of ordinary skill in the art recognize having a lightguide is necessary to illuminate the display unit.

11 As to claim 5, the transducer assembly according to claim 4, further, Nicolaisen et al., discloses the extension of the lightguide is positioned above a circuit board housed in a telecommunications device and wherein at least a portion of at least one circuit element is mountable on the circuit board in an area that is below the extension of the lightguide (Col. 3, lines 59-67; Col. 4, lines 1-5; Items 25, 26, 34 and 35 of figure 4).

12 As to claim 6, the transducer assembly according to claim 4, and set forth above in claim 4, further, Emmert discloses the cover comprises a housing (Item

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106 of figures 3 and 4), and a bezel (Item 332 of figures 3 and 4), the housing engages the bezel, and the lightguide engages the housing, wherein when the lightguide engages the housing and the housing engages the bezel, the transducer seal is positioned against the housing and the bezel (Col. 3, lines 25-62).

13 As to claim 7, the transducer assembly according to claim 6, further, Emmert discloses a transducer seal comprises a front portion having a first rim and a back portion having a second rim (Col. 3, lines 63-67; Item 328 of figures 3 and 4).

14 As to claim 8, the transducer assembly according to claim 7, further, Emmert discloses the transducer seal is positioned against the housing (Item 106 of figures 3 and 4) and the bezel (Item 104 of figures 3 and 4), the first rim of the front portion of the transducer seal engages the bezel with a sealing interference fit (See figure 2).

15 As to claim 9, the transducer assembly according to claim 7, further, as set forth above in claim 4, the combination of Emmert and Nicolaisen et al., discloses when the transducer seal is positioned against the housing and the lightguide engages the housing, the second rim of the back portion of the transducer seal engages the flexible circuit element with a sealing interference fit (See figures 2-4 of Emmert; See figure 4 of Nicolaisen et al.).

16 As to claim 10, the transducer assembly according to claim 1, further, Nicolaisen et al., discloses transducer includes at least one spring contact for coupling the transducer to the flexible circuit element (Col. 6, Lines 43-49). As to claim 16, the transducer assembly according to claim 5, further, Nicolaisen et al., discloses the extension of the lightguide includes at least one leg, the leg being positioned against a surface of the circuit board for supplementally supporting the lightguide (Col. 5, lines 1-3; Item 26 of figure 4).

17 As to claim 17, Emmert discloses a transducer assembly (Col. 9, lines 53-57) comprising a transducer (Item 342 of figures 3 and 4), a flexible circuit element (Item 316 of figures 3 and 4), wherein the transducer is coupled to the flexible circuit element (Col. 3, lines 63-67; Col. 4, line 1), and a transducer seal (Item 328 of figures 3 and 4), wherein the transducer seal seals the transducer when the transducer seal is positioned between a cover and the flexible circuit element (Item 106, 316, 328 and 342 of figures 3 and 4), however, Emmert does not expressly disclose an extension of a lightguide, wherein at least a portion of said flexible circuit element is positioned on and secured to said extension of said lightguide. In the similar field of endeavor, Nicolaisen et al., discloses a flexible circuit element that is secured onto an extension of a lightguide (Col. 2, lines 1-7; Items 26, 34 and 35 of figure 4).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify the transducer assembly of Emmert, by incorporating the

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flexible circuit element that is secured onto an extension of a lightguide, in order to have a flexible circuit element, wherein the transducer is coupled to the flexible circuit element, an extension of a lightguide, wherein at least a portion of the flexible circuit element is positioned on and secured to said extension of said lightguide, and a transducer seal, wherein the transducer seal seals the transducer when the transducer seal is positioned between a cover and the flexible circuit element, because Nicolaisen et al., discloses a transducer assembly that incorporates flexible circuit element that is secured onto an extension of a lightguide and one of ordinary skill in the art recognize having a lightguide is necessary to illuminate the display unit.

18 As to claim 19, the method according to claim 18, however, Emmert does not expressly disclose the steps of providing an extension of a lightguide and securing the flexible circuit element to the extension of the lightguide. In the similar field of endeavor, Nicolaisen et al., discloses a method of a flexible circuit element that is secured onto an extension of a lightguide (Col. 2, lines 1-7; Items 26, 34 and 35 of figure 4).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify the method of a transducer assembly of Emmert, by incorporating the method of a flexible circuit element that is secured onto an extension of a lightguide, in order to have a method for an extension of a lightguide, at least a portion of the flexible circuit element being positioned on and secured to the extension of the lightguide, because Nicolaisen et al.,

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discloses a method for a transducer assembly that incorporates flexible circuit element that is secured onto an extension of a lightguide and one of ordinary skill in the art recognize having a lightguide is necessary to illuminate the display unit.

19 As to claim 20, the method according to claim 19, further, Nicolaisen et al., discloses the step of positioning the lightguide above a circuit board housed in a telecommunications device, wherein at least a portion of at least one circuit element is mountable on the circuit board in an area that is below the extension of the lightguide (Col. 3, lines 59-67; Col. 4, lines 1-5; Items 25, 26, 34 and 35 of figure 4).

20 Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emmert in view of US patent of Curtis et al. (6,352,434).

21 As to claim 11, the transducer assembly according to claim 1, further, Emmert discloses a transducer seal that comprises an aperture for receiving the transducer and a first rim (Item 328 of figures 3 and 4), however, Emmert does not disclose a plate that covers a first end of the aperture. In similar field of endeavor, Curtis et al., discloses a transducer seal that is a plate, which covers one side of the transducer (Col. 3, lines 39-41; Item 12 of figures 2 and 3).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify the transducer assembly of Emmert, by incorporating the seal that is a plate of Curtis et al., in order to have the transducer assembly a

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transducer seal that comprises an aperture for receiving the transducer a plate that covers a first end of the aperture and a first rim, because Emmert discloses a seal that is formed have a rim and Curtis et al., discloses a seal that is a plate, which covers one side of the transducer. One of ordinary skill in the art recognizes that having the plate strengthen the seal that may also prevent undesirable movement of the transducer.

22 As to claim 12, the transducer assembly according to claim 11, further, Emmert discloses at least a portion of the first rim extends above the plate (Item 328 of figures 3 and 4).

23 As to claim 13, the transducer assembly according to claim 11, further, Emmert discloses when the transducer is inserted into said aperture, a bottom surface of said first rim of the transducer seal engages the transducer with a sealing interference fit and an inner surface of the aperture of the transducer seal engages the transducer with a sealing interference fit (Col. 3, lines 66-67).

24 Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emmert.

25 As to claim 14, the assembly according to claim 1, however, Emmert does not expressly discloses the transducer seal is constructed of at least one of

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rubber and plastic. But Emmert discloses the body of flexible circuit element being constructed from plastic (Col. 9, lines 27-33).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify the transducer seal of Emmert, in order to have the transducer seal is constructed of at least one of rubber and plastic, because one of ordinary skill in the art recognize that the seal may be constructed from either plastic or rubber to have flexibility during assembly as well as to minimize unwanted short circuited effect with the transducer or any other component in close proximity.

26 Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emmert in view of US patent of Brown et al. (4,984,268).

27 As to claim 15, the transducer assembly according to claim 1, however, Emmert does not expressly disclose the seal that is formed prevents high audio leakage through the transducer assembly. In the similar field of endeavor, Brown et al., discloses a seal that is formed prevents audio leakage through the transducer assembly (Col. 2, lines 44-50, 61-66; Col. 4, lines 62-68; Col. 5, lines 1-14; See figures 2-4).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify the transducer assembly of Emmert, by incorporating a seal that is formed prevents audio leakage, as taught by Brown et al., in order to have the transducer assembly seal that is formed prevents high audio leakage

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through the transducer assembly, because Brown et al., discloses a seal that is formed prevents audio leakage through the transducer assembly and one of ordinary skill in the art recognize that the seal may be modified to prevent any level of audio leak as desired.

Conclusion

28 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Huang et al., (US # 20040081329) discloses a button apparatus with a speaker.

Horne et al., (US # 6,462,938) discloses a connecting device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sisay Yacob whose telephone number is (571) 272-8562. The examiner can normally be reached on Monday through Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (571) 272-3068. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sisay Yacob

12/7/2005

S.Y.

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